

Amendments to the Claims:

Please amend claims 1, 5-7, 15, 16 and 18 as indicated below.

Please cancel claims 2 and 3.

Please add new claims 19 and 20 as presented below.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended): A method for setting the system parameters of a scanning microscope comprising the steps of:

- Controlling an acquisition of an image of a specimen with a control computer,
- Inputting at least one image quality feature after an image of the specimen is acquired, the at least one image quality feature including at least one of a noise of detected image data, a signal-to-noise ratio of the detected image data, a bleaching behavior of a fluorescent marking of a specimen, a detection speed of an image data set to be detected, a contrast, and a resolution;
- Converting the at least one image quality feature into at least one system parameter of the scanning microscope by the control computer, the at least one system parameter including at least one of a power level of a light source, a wavelength of the light source, a scanning speed of a scanning unit, a diameter of a confocal detection pinhole, an amplifier characteristic of a confocal detector, and a number of individual images to be detected for averaging of an image; and
- Setting the at least one system parameter;
wherein an image quality expected to be achievable, for the at least one inputted image quality feature, is calculated in the next acquired image and outputted to the user.

Claims 2-3 (canceled)

Claim 4 (original): The method as defined in Claim 1, wherein an inputted image quality feature, upon conversion into system parameters of the scanning microscope, influences or modifies several system parameters of the scanning microscope.

Claim 5 (currently amended): The method as defined in Claim 1, wherein the system parameters calculated and presently set by the control computer of the scanning microscope are outputted and/or displayed to ~~the~~ a user of the microscope for information.

Claim 6 (currently amended): The method as defined in Claim 1, wherein the image quality expected to be achievable, for the at least one image quality features ~~presently selected, in the next acquired image is calculated and outputted and/or feature is displayed to the user, preferably graphically, in particular in color.~~

Claim 7 (currently amended): The method as defined in Claim ~~[[6]]~~ 20, wherein a color indication is displayed

- in red if the selected system parameter setting is contradictory or results in information losses;
- in yellow if the calculated system parameter setting generates artifacts; or
- in green if the selected system parameter setting appears useful.

Claim 8 (original): The method as defined in Claim 1, wherein the number of images of the same (preferably fluorescent-marked) specimen still expected to be detectable is outputted and/or displayed to the user.

Claim 9 (original): The method as defined in Claim 8, wherein for calculation of the number of images of the same specimen still expected to be detectable, the images hitherto detected are taken into account, with consideration of the system parameter setting applicable in the context of the particular detection.

Claim 10 (original): The method as defined in Claim 1, wherein each image quality feature is set using a control element provided for it, for example using a joystick or a trackball.

Claim 11 (original): A method for setting the system parameters of a scanning microscope, comprising the steps of:

- Controlling an acquisition of an image of a specimen with a control computer;
- Modifying at least one image quality feature after an image of the specimen is acquired;
- Simulating the acquisition of a further image in the context of a modified system parameter; and
- Displaying the simulated further image to the user.

Claim 12 (original): The method as defined in Claim 11, wherein the simulation encompasses the optical imaging process of the scanning microscope and preferably is based on the image of the specimen already detected.

Claim 13 (original): The method as defined in Claim 11, wherein the user causes a further image acquisition to be performed with the scanning microscope in the context of modified system parameters, or modifies at least one further system parameter.

Claim 14 (original): The method as defined in Claim 11, wherein the simulation is accomplished on the control computer of the scanning microscope and/or on a further computer connected thereto.

Claim 15 (currently amended): A scanning microscope comprising: a control computer for controlling, an operating console for inputting at least one ~~modified~~ image quality feature after an image of the specimen is acquired, the at least one image quality feature including at least one of a noise of detected image data, a signal-to-noise ratio of the detected image data, a bleaching behavior of a fluorescent marking of a specimen, a detection speed of an image data set to be detected, a contrast, and a resolution, whereby the at least one image quality feature can be converted by the control computer into at least one system parameter of the scanning microscope that can be set, the at least one system parameter including at least one of a power level of a light source, a wavelength of the light source, a scanning speed of a scanning unit, a diameter of a

confocal detection pinhole, an amplifier characteristic of a confocal detector, and a number of individual images to be detected for averaging of an image, wherein an image quality expected to be achievable, for the at least one inputted image quality feature, can be calculated by the control computer in the next acquired image and outputted to the user.

Claim 16 (currently amended): [[A]] The scanning microscope as defined in Claim 15, wherein the scanning microscope is a confocal scanning microscope.

Claim 17 (original): A scanning microscope comprising: a control computer for controlling an acquisition of an image of a specimen with the scanning microscope, an operating console for inputting at least one modified image quality feature after an image of the specimen is acquired, means for simulating the acquisition of a further image in the context of a modified system parameter; and an output console for displaying the simulated further image to the user.

Claim 18 (currently amended): [[A]] The scanning microscope as defined in Claim 17, wherein the scanning microscope is a confocal scanning microscope.

Claim 19 (new): The method as defined in Claim 6, wherein the at least one image quality feature is displayed to the user graphically.

Claim 20 (new): The method as defined in Claim 6, wherein the at least one image quality feature is displayed to the user in color.